

**REMARKS**

Claims 11-20 are pending in the applications. Claims, 11, 12, 16, 18, and 19 have been amended herein. Claim 21 has been newly added.

**The Claimed Invention**

The present invention discloses a dishwasher that allows washed dishes located in the washing container to be dried effectively and efficiently from an economic perspective so as to keep the energy consumption as low as possible in spite of a very good drying performance. The dishwasher includes a washing container 12, a device for washing items retained in the washing container using rinsing liquor, a medium-retaining container for retaining therein, a vaporisable medium or a sublimable medium, and a sorber with reversibly dehydratable material.

The heating of the air in the container and especially in the sorber is largely sufficient to adequately heat the rinsing liquor and/or the dishes. Thus, any further heating can be largely dispensed with and the energy used for desorption can be almost completely used for heating the rinsing liquor and/or the dishes apart from the small amount of energy required to overcome the binding forces between water and reversibly dehydratable material. Using the sorber features of the present invention, washed dishes can be effectively dried with a low heat content, e.g. plastic parts because no heating is required in the partial program step preceding the "dry" partial program. The rapid drying also allows severely reduced bacteria growth or even completely prevents bacteria growth which advantageously affects the hygiene conditions on the cleaned dishes.

**The Nonstatutory Double Patenting Rejections**

Claims 11-20 are provisionally rejected on the grounds of nonstatutory obviousness-type double patenting as being unpatentable over claims 11-20 of co-pending application No. 10/581,238, over claims 9-15 of co-pending application No. 10/562,105, and over claims 10-18 of co-pending application No. 10/564,230. Since the claims in this application as well as each of the aforementioned applications are subject to amendment during prosecution, Applicants respectfully submit that this rejection be held in abeyance until allowance of claims in the present application.

**The Rejections under 35 U.S.C. § 112**

Claim 11 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The grounds of rejection indicate that the term "directly dry items retaining in the washing container" is not understood. Applicants respectfully refer the Examiner to the present specification at page 5, paragraph [009] where the specification describes the direct drying feature and the closed circuit nature of the present invention, as understood by one of ordinary skill in the art where the reversibly dehydratable material 11 contained in the sorber 10 has a relatively high capacity for moisture. The reversibly dehydratable material 11 absorbs a large quantity of the water 16 contained in the container 12 in a short time and the remainder of the water in the container 12 is severely cooled by latent heat of evaporation, e.g. until it freezes. The water 16 or ice in the container 12 evaporates or sublimates and the water vapour reaches the sorber 10 via the exchange pipe 15. In the sorber 10, the water vapour is absorbed by the reversibly dehydratable material 11. The reversibly dehydratable material 11 and therefore the sorber 10 is heated by the condensation heat produced. As a

result of the cooling of the container 12, a very large temperature difference is produced between the moist air and the condensation surface formed on the inside of the pipe 6. The moist air passed out from the washing container condenses as a result. The released condensation must be led off, e.g. into the washing container or into a separate storage container. The cooled air from which moisture has been removed at the container 12 is passed via the pipe 7 to the sorber 10. The sorber 10 has a severely elevated temperature, e.g. 90° as a result of the condensation heat produced. This results in heating of the air passed through the pipe 9 whereby the relative air moisture decreases further and the moisture absorption capacity of the air increases substantially. This dry and warm air is fed into the washing container 2 via the inlet 8 and can heat and dry the dishes to be dried here. The air fed in via the inlet 8 absorbs moisture in the washing compartment 2 and cools down and is then passed into the pipe 6 via the outlet 5 in a closed cycle. The valve 14 is preferably opened during the partial program step "dry" so that the cooling of the container 12, the heating of the sorber 10 and the circulation of the air through the pipes 6, 7 and 9 take place simultaneously.

Applicants note that the other feature of providing the thermal energy used for desorbing the sorber such that at least one of the rinsing liquor and the items located in the washing container are heated thereby is explained on page 6, at lines 17-29.

**The Rejections under 35 U.S.C. § 102(b)**

Claims 11, 12 and 14-19 stand rejected under 35 U.S.C. §102(b) as anticipated by Tarplee et al. (EPO Patent Application Publication No. EP0777998A1). Applicants respectfully traverse this rejection. The present invention recites, *inter alia*, in

independent 11, a dishwasher comprising a washing container and a device for washing items retained in the washing container using rinsing liquor. In conjunction, claim 11 also recites the feature whereby the thermal energy used for desorbing the claimed sorber heats the rinsing liquor. This heating of the rinsing liquor enhances the cleaning process of the dishwasher as noted in the present specification at page 1, paragraph [001] starting at line 15.

The grounds of rejection allege that Tarplee et al. teach a domestic appliance (alleging that the term dishwasher is intended use) having a container (D) (alleging that washing is intended use), and that there is a device for washing items retained in the washing container (D) using rinsing liquid. Applicants respectfully submit that a critical step in analyzing the patentability of claims pursuant to 35 U.S.C. §102(b) is whether the subject matter of the alleged § 102(b) bar contains each element of the claimed invention. *Danacorp v. American Axle & Mfg., Inc.*, 279 F3rd, 1372, 61 U.S.P.Q. 2nd 1609 (Fed. Cir.2002). In this regard, Applicants respectfully submit that the disclosure of Tarplee et al. does not contain each element of the claimed invention and thus there is no §102(b) bar.

Specifically, Tarplee et al. discloses a clothes dryer (teaching away from a dishwasher), and therefore does not teach or suggest any items being cleaned nor a device (for example, spray arms of a dishwasher as understood by one of ordinary skill in the art) that wash items using a rinsing liquid. Further, since a rinsing liquid is not suggested by Tarplee et al., there is no suggestion of heating the rinsing liquid with the thermal energy used for desorbing as in the present invention. Finally, the grounds of

rejection inherently acknowledge that the present invention is not anticipated by Tarplee et al. since the reference is combined with the Hesse reference in alleging that the invention is obvious in the 35 U.S.C. § 103(a) rejection discussed below. Accordingly, Applicants respectfully submit that independent claim 11 is allowable, as well as claims 12-20 that are dependent on independent claim 11.

Applicants have added new claim 21 to recite an exemplary embodiment of the invention having the rinsing liquor heating features described above. Since the features of claim 21 should have already been examined with respect to claim 11, no further search is thought necessary.

**The Rejections under 35 U.S.C. § 103(a)**

Claims 11-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hesse (German Patent Publication No. DE3741652) in view of Tarplee et al. Applicants respectfully traverse this rejection.

The grounds of rejection cite Hesse as teaching a dishwashing machine having a washing container (1) for washing items in the washing container using rinsing liquid, (citing Figure 1). The grounds of rejection state that the dishwashing machine is a closed-loop type in which drying is achieved by circulating air through a duct in which the air is first condensed by cooling, then the fan (10) blows the air and then the dehumidified air is heated by a heater (13). The grounds of rejection acknowledge that Hesse does not teach the use of a sorber and a liquid to create a heat-pump in the cooling/heating duct of the air loop and relies on the disclosure of Tarplee et al., concluding that it would have been obvious to one of ordinary skill in the art the time of the invention to modify Hesse

with Tarplee et al. to create a dishwashing machine with a closed-loop drying system which saves energy to achieve the expected result (citing Tarplee et al., at pg. 2, lines 23-25).

Applicants respectfully submit that Hesse discloses the use of a heat exchanger within a dishwasher for reducing moisture in air in a closed system after the dishes have been washed, and the cleaning water drained. There is no disclosure, nor would the Hesse heat exchanger be applied to heating rinsing liquid with the thermal energy used for desorbing the claimed sorber as claimed. Indeed, neither Hesse nor Tarplee et al. are designed for or suggest this feature. Accordingly, Applicants respectfully submit that claims 11-20 are allowable over the combination of Hesse and Tarplee et al.

**CONCLUSION**

In view of the above, allowance of claims 11-21 is respectfully requested. If the Examiner has any questions regarding the remarks herein, the Examiner is kindly requested to contact the undersigned. If an extension of time for this paper is required, petition for extension is herewith made.

Respectfully submitted,

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